

ABSTRACT OF THE INVENTION

The invention provides devices, device configurations and methods for improved sensitivity, resolution and efficiency in mass spectrometry, particularly as applied to biological molecules, including biological polymers, such as proteins and nucleic acids.

5 More particularly, the invention provides methods and devices for analyzing and detecting electrically charged particles, especially suitable for gas phase ions generated from high molecular weight compounds. In one aspect, the invention provides devices and methods for determining the velocity, charged state or both of electrically charged particles and packets of electrically charged particles. In another aspect, the invention
10 provides methods and devices for the time-of-flight analysis of electrically charged particles comprising spatially collimated sources. In another aspect, the invention relates to multiple detection using inductive detectors, improved methods of signal averaging and charged particle detection in coincidence.